

Executive Summary:

This report summarizes the first two years of a three-year project to restore eelgrass to the lower Potomac River. In 2003 and 2004, approximately 3,000,000 eelgrass seeds were distributed to four areas using two methods, and both of these methods were compared to adult test plantings performed nearby. Eelgrass seeding and subsequent survival are summarized as follows:

Site	Seeding Method	Season/ Year of seeding	Plot Size (Acres)	Initial recruitment	Plants survived through fall 2005
Piney Point	Seed bags	fall/ 2003	3	No	No
Piney Point	Seed broadcast	Fall/2004	0.5	No	No
St. George Island	Seed bags	Spring/2004	5	Yes	Yes
St. George Island	Seed broadcast	Fall/2004	0.25	Yes	Yes
Sage Point	Seed bags	Spring/2004	10	Yes	No
Cherryfield Point	Seed bags	Spring/2004	5	Yes	No
Cherryfield Point	Seed broadcast	Fall/2004	0.25	No	No

The water quality data collected show prolonged periods of poor water clarity at the same time that temperatures are above 25 degrees. This is believed to be responsible for the loss of most of the seedlings recruited in 2004 as well as most of the plants in the adult test plots. Despite 2003, 2004, and 2005 being exceptionally poor years for water clarity, including setting new 20-year record lows for monthly Secchi depth on 8 separate occasions during the three year period, 2 of the 7 method/year combinations had plants at the time of our last survey.

Evaluation of the cost effectiveness of the three methods used showed that spring seed bags were by far the most cost effective restoration technique, with a cost per seedling of \$1.70 compared to \$4.70 for planting an adult plant and \$363.89 per seedling for fall seed broadcasting. However, the fall seed broadcast cost estimate is affected greatly by the loss of seeds during storage, a result that changes in storage conditions may offset in 2006. Method comparisons will be performed again in 2006.